

ABSTRACT

A process for manufacturing a zeolite membrane by hydrothermal synthesis on the surface of a porous tubular support 3 with both ends open, by adding a reaction solution containing a silica source and an alumina source and the porous tubular support 3 into a lengthwise reaction container 1 longer than the porous tubular support 3 while placing the porous tubular support 3 vertically in the reaction container 1 and substantially apart from the inner surface of the reaction container 1, and immersing the porous tubular support 3 completely in the reaction solution so that the inside of the porous tubular support 3 is filled with the reaction solution; and heating the reaction solution under conditions of leaving the top and bottom ends of the porous tubular support 3 open, and an apparatus using thereof and zeolite tubular separation membranes thus obtained.